

FAVORABLE

PATENT COOPERATION TREATY

10/777,000

From the
INTERNATIONAL SEARCHING AUTHORITY

PCT

In Response
per amendmentTo:
MARK T. STARR
UNISYS CORPORATION
UNISYS WAY, MS/E8-114
BLUE BELL, PA 19424-0001WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

Date of mailing (day/month/year) 14 APR 2005	
FOR FURTHER ACTION See paragraph 2 below	
Applicant's or agent's file reference USYS-0159/TN333 TN333 B	
International application No. PCT/US04/33252	International filing date (day/month/year) 07 October 2004 (07.10.2004)
Priority date (day/month/year) 08 October 2003 (08.10.2003)	
International Patent Classification (IPC) or both national classification and IPC IPC(7): G06F 12/00 and US Cl.: 711/203	
Applicant UNISYS CORPORATION	

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/ US Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (703) 305-3230	Authorized officer Le H Luu Telephone No. 703-305-3900
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Form PCT/ISA/237 (cover sheet) (January 2004)

by
July 14, 05
or
Aug. 8, 05

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

PCT/US04/33252

Box No. I Basis of this opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ This opinion has been established on the basis of a translation from the original language into the following language _____. which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).

2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:

a. type of material

☐ a sequence listing

☐ table(s) related to the sequence listing

b. format of material

☐ in written format

☐ in computer readable form

c. time of filing/furnishing

☐ contained in international application as filed.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority for the purposes of search.

3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

4. Additional comments:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/US04/33252

Box No. V Reasoned statement under Rule 43 bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims <u>1-15</u>	YES
	Claims <u>NONE</u>	NO
Inventive step (IS)	Claims <u>1-15</u>	YES
	Claims <u>NONE</u>	NO
Industrial applicability (IA)	Claims <u>1-15</u>	YES
	Claims <u>NONE</u>	NO

2. Citations and explanations:

Claims 1-15 meet the criteria set out in PCT Article 33(2)-(3), because the prior art does not teach or fairly suggest a virtualization system for a host computer having at least one host processor and system resources including physical I/O hardware and memory divided into most privileged system memory and less privileged user memory, the system comprising: virtualization software that operates in said less privileged user memory and divides said host computer into a plurality of virtual partitions including at least one user guest partition that provides a virtualization environment for at least one guest operating system and at least one input/output (I/O) partition that maps said physical I/O hardware to endpoints of an I/O channel server in said at least one I/O partition, said I/O channel server sharing the physical I/O hardware with at least one guest partition via a memory channel comprising memory shared between said at least one I/O partition and said at least one guest partition; a resource database for use in managing use of said at least one host processor and said system resources; at least one monitor that operates in said most privileged system memory and maintains guest applications in said at least one guest partition within memory space specified in said resource database; and a context switch between said at least one monitor and said respective guest and I/O partitions for controlling multitask processing of software in said partitions on said at least one host processor.